Influence of Heat Transfer and Magnetic Field on a Peristaltic Transport of a Jeffrey Fluid in an Asymmetric Channel with Partial Slip

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In the present paper, we have studied the influence of heat transfer and magnetic field on a peristaltic transport of a Jeffrey fluid in an asymmetric channel with partial slip. The complicated Jeffrey fluid equations are simplified using the long wave length and low Reynolds number assumptions. In the wave frame of reference, an exact and closed form of Adomian solution is presented. The expressions for pressure drop, pressure rise, stream function, and temperature field have been calculated. The behaviour of different physical parameters has been discussed graphically. The pumping and trapping phenomena of various wave forms (sinusoidal, multisinusoidal, square, triangular, and trapezoidal) are also studied.